

DOCKET NO. ANSI01-00012

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PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

re application of : Mark G. Schrom, et al.

Serial No. : 09/500,213

Filed : February 8, 2000

For : NEUROSTIMULATING LEAD

Group No. : 3762

Examiner : George Robert Evanisko

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Washington, D.C. 20231

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Sir:

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5. Change of Correspondence Address;
6. Submission of Proposed Drawing Amendment for Approval by Examiner (37 C.F.R. §1.121) and one (1) sheet of redlined drawings;
7. Information Disclosure Statement;
8. Form PTO/SB/08A;
9. Ten (10) references as cited on Information Disclosure Statement;
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U.S. SERIAL NO. 09/500,213

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relating to the above application, were deposited as "First Class Mail" with the United States Postal Service, addressed to Box FEE AMENDMENT, Commissioner for Patents, Washington, D.C. 20231, on April 7, 2003.

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Robert D. McCutcheon

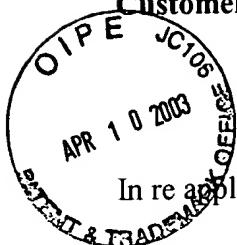
Robert D. McCutcheon

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DOCKET NO. ANSI01-00012

Customer No. 36029



PATENT

4/22/03
B. W.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : Mark G. Schrom, et al.

Serial No. : 09/500,213

Filed : February 8, 2000

For : NEUROSTIMULATING LEAD

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BOX FEE AMENDMENT

Commissioner for Patents
Washington, D. C. 20231

Sir:

SUBMISSION PURSUANT TO DUTY TO DISCLOSE

Enclosed are copies of several document listings identifying numerous patent, patent applications and/or publications.

The current assignee of the present Application, MicroNet Medical, was recently acquired (September, 2002) by another company, though MicroNet Medical still exists as a separate legal entity and the current assignee of the present Application. After the transaction was completed, the application file, as well as responsibility for the prosecution and handling of the Application, was transferred to the undersigned counsel. In reviewing the transferred file, the enclosed document listings were discovered. The transferred file did not include copies of any of the documents listed. The undersigned counsel, and it is believed further that the Applicant, have no specific knowledge of the subject matter disclosed/described within these documents, other than the information

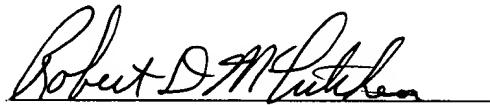
identified in the listings, or whether such documents are relevant or material to the patentability of the present Application.

Accordingly, Applicant provides the enclosed document lists in its effort to fulfill its duty of candor and good faith and duty to disclose.

Respectfully submitted,

DAVIS MUNCK, P.C.

Date: 4/7/2003



Robert D. McCutcheon
Registration No. 38,717

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From: <JMF@mail.nerac.com>
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Subject: ELECTRICAL LEAD BRAIN MAPPING

TECH TRACK UPDATE
QUESTION NO.- 1053827.002

ELECTRICAL LEAD
BRAIN MAPPING

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DATE- November 29, 1999 QUESTION NO.- 1053827 TECH.SPEC.- Joanne Ferrell

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1053827.002
ELECTRICAL LEAD
BRAIN MAPPING

BIO ISS 02-40

Citations from BIOLOGICAL ABSTRACTS: BIO ISS 02-40

1. NDN 199-0017-9501-9: Simultaneous blood oxygenation level-dependent and cerebral blood flow functional magnetic resonance imaging during forepaw stimulation in the rat.
2. NDN 199-0017-6279-8: Epilepsy surgery at the turn of the century. Presurgical evaluation: Where we were and where we are going.
3. NDN 199-0017-4112-6: Neuronal activity and transcription of proinflammatory cytokines, IkappaBalphalpha, and iNOS in the mouse brain during acute endotoxemia and chronic infection with *Trypanosoma brucei brucei*.

Citations from BIOLOGICAL ABSTRACTS: BIO ISS 02-40

1. Simultaneous blood oxygenation level-dependent and cerebral blood flow functional magnetic resonance imaging during forepaw stimulation in the rat. - BIO 02-40 02-424538 NDN- 199-0017-9501-9

Kim, Seong-Gi; Iadecola, Costantino; Lee, Sang-Pil; Silva, Afonso C.; Yang, Guang

JOURNAL NAME- Journal of Cerebral Blood Flow and Metabolism VOL. 19 NO. 8 Aug., 1999 PP. 871-879. DOCUMENT TYPE- Article ISSN- 0271-678X ADDRESS- Center for Magnetic Resonance Research, University of Minnesota Medical School, 2021 Sixth Street SE, Minneapolis, MN, 55455, USA LANGUAGE- ENGLISH

The blood oxygenation level-dependent (BOLD) contrast mechanism can be modeled as a complex interplay between CBF, >cerebral< blood volume (CBV), and CMRO₂. Positive BOLD signal changes are presumably caused by CBF changes in excess of increases in CMRO₂. Because this uncoupling between CBF and CMRO₂ may not always be present, the magnitude of BOLD changes may not be a good index of CBF changes. In this study, the relation between BOLD and CBF was investigated further. Continuous arterial spin labeling was combined with a single-shot, multislice echo-planar imaging to enable simultaneous measurements of BOLD and CBF changes in a well-established model of functional >brain< activation, the >electrical< forepaw stimulation of alpha-chloralose-anesthetized rats. The paradigm consisted of two 18- to 30-second stimulation periods separated by a 1-minute resting interval. Stimulation parameters were optimized by laser Doppler flowmetry. For the same cross-correlation threshold, the BOLD and CBF active >maps< were centered within the size of one pixel (470 μ m). However, the BOLD >map< was significantly larger than the CBF >map<. Measurements taken from 15 rats at 9.4 T using a 10-millisecond echo-time showed 3.7 +- 1.7% BOLD and 125.67 +- 81.7% CBF increases in the

contralateral somatosensory cortex during the first stimulation, and 2.6 +- 1.2% BOLD and 79.3 +- 43.6% CBF increases during the second stimulation. The correlation coefficient between BOLD and CBF changes was 0.89. The overall temporal correlation coefficient between BOLD and CBF time-courses was 0.97. These results show that under the experimental conditions of the current study, the BOLD signal changes follow the changes in CBF.

DESCRIPTOR(S)- *Nervous System (Neural Coordination); *rat (Muridae); *Animals; *Chordates; *Mammals; *Nonhuman Mammals; *Nonhuman Vertebrates; *Rodents; *Vertebrates; *arterial spin labeling --analytical method; *>electrical< forepaw stimulation --analytical method; *functional >brain< >mapping< --analytical method; *functional magnetic resonance imaging --diagnostic method; *functional magnetic resonance imaging --echo-planar; *functional magnetic resonance imaging --imaging method; *functional magnetic resonance imaging --imaging techniques; *laser Doppler flowmetry --analytical method; *blood oxygenation level-dependent contrast mechanism BOLD contrast mechanism; *>cerebral< blood flow --volume; *>cerebral< metabolic rate; *functional >brain< activation model BIOLOGICAL TAXONOMIC DESCRIPTOR(S)- Muridae --Animalia; Muridae --Chordata; Muridae --Mammalia; Muridae --Rodentia; Muridae --Vertebrata BIOSIS Concept Code(s)- 06504; 10012; 10504; 15002; 20501; 20504 BIOSYSTEMATIC CODES- 86375.

2. Epilepsy surgery at the turn of the century. Presurgical evaluation: Where we were and where we are going. - BIO 02-40 02-421316 NDN- 199-0017-6279-8

Engel, J., Jr.

JOURNAL NAME- Epilepsia VOL. 40 NO. SUPPL. 2 1999 PP. 145-146.
DOCUMENT TYPE- Meeting ISSN- 0013-9580 ADDRESS- UCLA School of Medicine, Los Angeles, CA, USA CONFERENCE DATE- September 12-17, 1999 CONFERENCE TITLE- 23rd International Epilepsy Congress LANGUAGE- ENGLISH

NO-ABSTRACT

DESCRIPTOR(S)- *Neurology (Human Medicine, Medical Sciences); *Radiology (Medical Sciences); *Surgery (Medical Sciences); *human (Hominidae) --patient; *Animals; *Chordates; *Humans; *Mammals; *Primates; *Vertebrates; *>cerebral< cortex --intraoperative >electrical< stimulation; *>cerebral< cortex --nervous system; *cortical dysplasia --congenital disease; *cortical dysplasia --diagnosis; *cortical dysplasia --nervous system disease; *epilepsy --diagnosis; *epilepsy --nervous system disease; *epilepsy --pathophysiology; *epilepsy --presurgical evaluation; *epilepsy --prognosis; *epilepsy --treatment; *hippocampal sclerosis --diagnosis; *hippocampal sclerosis --nervous system disease; *>cerebral< angiography --evaluation method; *>cerebral< angiography --presurgical; *computed tomography --evaluation method; *computed tomography --presurgical; *epilepsy surgery --history; *epilepsy surgery --surgical method; *epilepsy surgery --therapeutic method; *functional magnetic resonance imaging --evaluation method;

*functional magnetic resonance imaging --presurgical; *magnetic resonance spectroscopy --evaluation method; *magnetic resonance spectroscopy --presurgical; *magnetoencephalography --evaluation method; *magnetoencephalography --presurgical; *pneumoencephalography --evaluation method; *pneumoencephalography --presurgical; *EEG electroencephalography --presurgical; *EEG electroencephalography --evaluation method; *MRI magnetic resonance imaging --presurgical; *PET positron emission tomography --evaluation method; *PET positron emission tomography --interictal; *PET positron emission tomography --presurgical; *SPECT single photon emission computed tomography --evaluation method; *SPECT single photon emission computed tomography --ictal; *SPECT single photon emission computed tomography --presurgical; *twentieth century; *epileptogenic focus --localization; *ictal event --localization; *Meeting Abstract; *Epilepsy (MeSH) BIOLOGICAL TAXONOMIC DESCRIPTOR(S)- Hominidae --Animalia; Hominidae --Chordata; Hominidae --Mammalia; Hominidae --Primates; Hominidae --Vertebrata BIOSIS Concept Code(s)- 00520; 00522; 06502; 12504; 12512; 20501 BIOSYSTEMATIC CODES- 86215 CONCEPT CODE(S)- Prague, Czech Republic.

3. Neuronal activity and transcription of proinflammatory cytokines, IkappaBalp, and iNOS in the mouse brain during acute endotoxemia and chronic infection with *Trypanosoma brucei brucei*. - BIO 02-40
02-419149 NDN- 199-0017-4112-6

Rivest, Serge; Brochu, Sebastien; Olivier, Martin

JOURNAL NAME- Journal of Neuroscience Research VOL. 57 NO. 6 Sept. 15, 1999 PP. 801-816. DOCUMENT TYPE- Article ISSN- 0360-4012

ADDRESS- Laboratory of Molecular Endocrinology, CHUL Research Center and Laval University, 2705, boul. Laurier, Quebec, G1V 4G2, Canada LANGUAGE- ENGLISH

Trypanosoma brucei brucei (Tbb) infection is a model of chronic immune response associated with severe neurological disorders believed to >lead< to coma and death. We hypothesized that exaggerated production of proinflammatory molecules within the central nervous system (CNS) may be involved in the etiology of the disease, i.e., African Trypanosomiasis. The purpose of the present study was therefore to verify the effects of the parasite Tbb on the genetic expression of the immediate-early gene c-fos (index of cellular activity), tumor necrosis factor alpha (TNF-alpha), interleukin-6 (IL-6), inhibitory factor kappa B alpha (IkappaBalp, index of the nuclear factor kappaB activity, the transcription factor of numerous proinflammatory molecules), and inducible nitric oxide synthase (iNOS) in the mouse >brain<. Adult male BALB/c mice received a single intraperitoneal injection of lipopolysaccharide (LPS, used as positive control for these markers that are induced in a transient manner by the endotoxin), Tbb, or vehicle solution and were sacrificed at multiple times (1 hr to 7 days) following the injection. Acute and chronic models induced a robust expression of c-fos in numerous regions of the >brain<, including the circumventricular organs (CVOs) and different

nuclei involved in autonomic control. Although the effect of LPS was rapid and transient, Tbb pathogen stimulated c-fos only within 5 to 7 days. The genes encoding TNF-alpha and IL-6 cytokines were expressed in the CVOs and choroid plexus 1 and 3 hr after LPS injection, whereas no convincing hybridization signal was detected in the brains of Tbb-infected mice at any time. IL-6 and iNOS-expressing cells were also found along large blood vessels of LPS-treated mice, while scattered small TNF-alpha-expressing cells were observed across the >brain< 12 and 24 hr after the endotoxin treatment. Tbb caused a low to moderate expression of iNOS and IkappaBalpha genes in perivascular cells, but this effect was apparent only several days following the parasite infection. Taken together, these data indicate that LPS and Tbb >stimulate< c-fos expression in similar nuclei involved in autonomic control, an event occurring within the first 3 hr after the LPS insult and only 5 days post-Tbb injection. The mRNAs encoding proinflammatory cytokines were, however, not detected in Tbb-infected brains, which may be explained by the Tbb variant (MiTat 1.5) that caused high parasitaemias and mortality within 5 to 7 days.

DESCRIPTOR(S)- *Infection; *Nervous System (Neural Coordination); *mouse (Muridae) --adult; *mouse (Muridae) --animal model; *mouse (Muridae) --male; *mouse (Muridae) --BALB/c; *Trypanosoma brucei brucei (Flagellata) --parasite; *Animals; *Chordates; *Invertebrates; *Mammals; *Microorganisms; *Nonhuman Mammals; *Nonhuman Vertebrates; *Protozoans; *Rodents; *Vertebrates; *blood vessel --circulatory system; *>brain< --nervous system; *central nervous system --nervous system; *septic shock --bacterial disease; *c-fos; *interleukin-6; *iNOS inducible nitric oxide; *mRNA messenger RNA; *tumor necrosis factor-alpha; *I kappa B alpha gene; *I kappa B-alpha; *Shock, Septic (MeSH) BIOLOGICAL TAXONOMIC DESCRIPTOR(S)- Flagellata --Animalia; Flagellata --Invertebrata; Flagellata --Protozoa; Muridae --Animalia; Muridae --Chordata; Muridae --Mammalia; Muridae --Rodentia; Muridae --Vertebrata BIOSIS Concept Code(s)- 10802; 17002; 20501; 36001; 60502 BIOSYSTEMATIC CODES- 35200; 86375 CAS REGISTRY/EC NUMBER(S)- *10102-43-9 --NITRIC OXIDE.

Question Number: 1053827.002 File: BIO Strategy Date: 11/23/99

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QUESTION NO.- 1053827.002

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DATE- December 21, 1999 QUESTION NO.- 1053827 TECH.SPEC.- Joanne Ferrell

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1053827.002
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EMB ISS 99-45

Citations from EMBASE: EMB ISS 99-45

1. NDN 196-0128-0917-8: Systemic hyperosmolality improves beta-glucuronidase distribution and pathology in murine MPS VII >brain< following intraventricular gene transfer
2. NDN 196-0127-9957-4: Functional roles of Broca's area and SMG: Evidence from cortical stimulation >mapping< in a deaf signer
3. NDN 196-0127-8017-6: Systematic approach to dipole >localization< of interictal EEG spikes in children with extratemporal lobe epilepsies
4. NDN 196-0127-8015-2: The electroencephalogram through a software microscope: Non-invasive >localization< and visualization of epileptic seizure activity from inside the >brain<
5. NDN 196-0127-8007-3: High-resolution EEG mappings: A spherical harmonic spectra theory and simulation results
6. NDN 196-0127-7665-3: Increased cortical oxidative metabolism due to sensory stimulation: Implications for functional >brain< imaging
7. NDN 196-0127-6669-6: Intra-operative direct >electrical< stimulations of the central nervous system: The Salpetriere experience with 60 patients
8. NDN 196-0127-6448-1: Functional recruitment of red blood cells to rat >brain< microcirculation accompanying increased neuronal activity in cerebellar cortex
9. NDN 196-0127-6115-7: Liquorrhea after fractures of the base of the skull: Modern diagnostic and therapeutic management

10. NDN 196-0127-5458-0: A new planar multielectrode array for extracellular recording: Application to hippocampal acute slice

Citations from EMBASE: EMB ISS 99-45

1. Systemic hyperosmolality improves beta-glucuronidase distribution and pathology in murine MPS VII >brain< following intraventricular gene transfer - EMB 99-45 1999409202 NDN- 196-0128-0917-8

Ghodsi, A.; Stein, C.; Derksen, T.; Martins, I.; Anderson, R. D.; Davidson, B. L.

JOURNAL NAME- Experimental Neurology 160/1 (109-116) DOCUMENT TYPE- Journal COPYRIGHT- Copyright 1999 Elsevier Science B.V., Amsterdam. All rights reserved. ISSN- 0014-4886 PUBLICATION YEAR- 1999 CODEN- EXNEA EMAIL- beverly-davidson@uiowa.edu COUNTRY OF AUTHOR- United States PUBLICATION COUNTRY- United States LANGUAGE- ENGLISH

ABSTRACT SUMMARY- Mucopolysaccharidosis VII, a classical lysosomal storage disease, is caused by deficiency of the enzyme beta-glucuronidase. Central nervous system (CNS) manifestations are severe with accumulations of storage ...

NO-DESCRIPTORS.

2. Functional roles of Broca's area and SMG: Evidence from cortical stimulation >mapping< in a deaf signer - EMB 99-45 1999408199 NDN- 196-0127-9957-4

Corina, D. P.; McBurney, S. L.; Dodrill, C.; Hinshaw, K.; Brinkley, J.; Ojemann, G.

JOURNAL NAME- NeuroImage 10/5 (570-581) DOCUMENT TYPE- Journal COPYRIGHT- Copyright 1999 Elsevier Science B.V., Amsterdam. All rights reserved. ISSN- 1053-8119. PUBLICATION YEAR- 1999 CODEN- NEIME EMAIL- corina@u.washington.edu COUNTRY OF AUTHOR- United States PUBLICATION COUNTRY- United States LANGUAGE- ENGLISH

ABSTRACT SUMMARY- The importance of the left hemisphere in language function has been firmly established and current work strives to understand regional specializations within the perisylvian language areas.

NO-DESCRIPTORS.

3. Systematic approach to dipole >localization< of interictal EEG spikes in children with extratemporal lobe epilepsies - EMB 99-45 1999406028 NDN- 196-0127-8017-6

Ochi, A.; Otsubo, H.; Shirasawa, A.; Hunjan, A.; Sharma, R.; Betting, M.; Rutka, J. T.; Kamijo, K.; Yamazaki, T.; Wilson, S. B.; Snead, III O. C.

JOURNAL NAME- Clinical Neurophysiology 111/1 (161-168) DOCUMENT TYPE- Journal COPYRIGHT- Copyright 1999 Elsevier Science B.V., Amsterdam. All rights reserved. ISSN- 1388-2457 PUBLICATION YEAR- 2000 CODEN- CNEUF EMAIL- 713643@ican.net COUNTRY OF AUTHOR- Canada PUBLICATION COUNTRY- Ireland LANGUAGE- ENGLISH

ABSTRACT SUMMARY- Objectives: To assess the reliability of dipole >localization< based on residual variances (RV), using equivalent current dipole analysis of interictal EEG spikes in children with extratemporal

NO-DESCRIPTORS.

4. The electroencephalogram through a software microscope: Non-invasive >localization< and visualization of epileptic seizure activity from inside the >brain< - EMB 99-45 1999406026 NDN- 196-0127-8015-2

Kobayashi, K.; James, C. J.; Yoshinaga, H.; Ohtsuka, Y.; Gotman, J.

JOURNAL NAME- Clinical Neurophysiology 111/1 (134-149) DOCUMENT TYPE- Journal COPYRIGHT- Copyright 1999 Elsevier Science B.V., Amsterdam. All rights reserved. ISSN- 1388-2457 PUBLICATION YEAR- 2000 CODEN- CNEUF COUNTRY OF AUTHOR- Japan PUBLICATION COUNTRY- Ireland LANGUAGE- ENGLISH

ABSTRACT SUMMARY- Objective: We developed a novel non-invasive analysis to localize the source and visualize the time course of >electrical< activity generated inside the >brain< but unclear from ...

NO-DESCRIPTORS.

5. High-resolution EEG mappings: A spherical harmonic spectra theory and simulation results - EMB 99-45 1999406018 NDN- 196-0127-8007-3

Dezhong, Y.

JOURNAL NAME- Clinical Neurophysiology 111/1 (81-92) DOCUMENT TYPE- Journal COPYRIGHT- Copyright 1999 Elsevier Science B.V., Amsterdam. All rights reserved. ISSN- 1388-2457 PUBLICATION YEAR- 2000 CODEN- CNEUF EMAIL- dyao@uestc.edu.cn COUNTRY OF AUTHOR- China PUBLICATION COUNTRY- Ireland LANGUAGE- ENGLISH

ABSTRACT SUMMARY- Shown first is the equivalence between the multiple expansion (ME) of the >brain< >electrical< generator and the spherical harmonic spectra (SHS) of the potential generated by ...

NO-DESCRIPTORS.

6. Increased cortical oxidative metabolism due to sensory stimulation:
Implications for functional >brain< imaging - EMB 99-45 1999405675
NDN- 196-0127-7665-3

Vanzetta, I.; Grinvald, A.

JOURNAL NAME- Science 286/5444 (1555-1558) 19 NOV 1999 DOCUMENT
TYPE- Journal COPYRIGHT- Copyright 1999 Elsevier Science B.V.,
Amsterdam. All rights reserved. ISSN- 0036-8075 PUBLICATION YEAR- 1999
CODEN- SCIEA COUNTRY OF AUTHOR- Israel PUBLICATION COUNTRY- United
States LANGUAGE- ENGLISH

ABSTRACT SUMMARY- Modern functional >brain< >mapping< relies on
interactions of neuronal >electrical< activity with the cortical
microcirculation. The existence of a highly localized, stimulus-evoked
initial deoxygenation has remained ...

NO-DESCRIPTORS.

7. Intra-operative direct >electrical< stimulations of the central nervous
system: The Salpetriere experience with 60 patients - EMB 99-45
1999404677 NDN- 196-0127-6669-6

Duffau, H.; Capelle, L.; Sicchez, J. -P.; Faillot, T.; Abdennour, L.;
Law, Koune J. -D.; Dadoun, S.; Bitar, A.; Arthuis, F.; Van, Effenterre
R.; Fohanno, D.; Isamat, F.; Schramm, J.

JOURNAL NAME- Acta Neurochirurgica 141/11 (1157-1167) DOCUMENT TYPE-
Journal COPYRIGHT- Copyright 1999 Elsevier Science B.V., Amsterdam. All
rights reserved. ISSN- 0001-6268 PUBLICATION YEAR- 1999 CODEN- ACNUA
COUNTRY OF AUTHOR- France PUBLICATION COUNTRY- Austria LANGUAGE-
ENGLISH

ABSTRACT SUMMARY- Indications of surgical treatment for lesions in the
central nervous system depend on the risk of a definitive neurological
deficit, related to the benefit of resection. ...

NO-DESCRIPTORS.

8. Functional recruitment of red blood cells to rat >brain< microcirculation
accompanying increased neuronal activity in cerebellar cortex - EMB
99-45 1999404456 NDN- 196-0127-6448-1

Akgoren, N.; Lauritzen, M.

JOURNAL NAME- NeuroReport 10/16 (3257-3263) DOCUMENT TYPE- Journal
COPYRIGHT- Copyright 1999 Elsevier Science B.V., Amsterdam. All rights
reserved. ISSN- 0959-4965 PUBLICATION YEAR- 1999 CODEN- NERPE
COUNTRY OF AUTHOR- Denmark PUBLICATION COUNTRY- United Kingdom
LANGUAGE- ENGLISH

ABSTRACT SUMMARY- SCANNING laser-Doppler flowmetry (SLDF) combines
laser-Doppler flowmetry and laser scanning to provide images of >cerebral<
blood flow (CBF) with high spatial and temporal resolution. We
investigated ...

NO-DESCRIPTORS.

9. Liquorrhea after fractures of the base of the skull: Modern diagnostic and
therapeutic management - EMB 99-45 1999403522 NDN- 196-0127-6115-7

Oberascher, G.; Povacz, P.; Oder, W.; Brenner, H.

JOURNAL NAME- Acta Chirurgica Austriaca 31/SUPPL. 156 (42-45) DOCUMENT
TYPE- Journal COPYRIGHT- Copyright 1999 Elsevier Science B.V.,
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CODEN- ACAUB COUNTRY OF AUTHOR- Germany PUBLICATION COUNTRY- Austria
LANGUAGE- GERMAN

ABSTRACT SUMMARY- Background: Injuries of the dura along the base of the
skull may >lead< to sequelae as meningitis, >brain< abscess or even letal
complications. Methods: Diagnostic and ...

NO-DESCRIPTORS.

10. A new planar multielectrode array for extracellular recording:
Application to hippocampal acute slice - EMB 99-45 1999383353
NDN- 196-0127-5458-0

Oka, H.; Shimono, K.; Ogawa, R.; Sugihara, H.; Taketani, M.

JOURNAL NAME- Journal of Neuroscience Methods 93/1 (61-67) DOCUMENT
TYPE- Journal COPYRIGHT- Copyright 1999 Elsevier Science B.V.,
Amsterdam. All rights reserved. ISSN- 0165-0270 PUBLICATION YEAR-
1999 CODEN- JNMED COUNTRY OF AUTHOR- Japan PUBLICATION COUNTRY-
Netherlands LANGUAGE- ENGLISH

ABSTRACT SUMMARY- The present paper describes a new planar multielectrode
array (the MED probe) and its electronics (the MED system) which perform
electrophysiological studies on acute hippocampal slices. ...

NO-DESCRIPTORS.

Question Number: 1053827.002 File: EMB Strategy Date: 11/23/99

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Patent File

I.D. #	Patent Number	Inventor	Assignee	Issue Date	Title
1	PCT/US98/07891	Racz (Gabor), Gielen, Truitt	Medtronic, Inc. Medtronic, Inc. Image-Guided Neurologics	11/1/99 7/22/99 3/4/99 3/4/99	Medical lead with sigma feature. Target Localization lead for stereotactic brain surgery. MR-Compatible Medical Devices. Invasive medical device including an apposed solenoid RF coil for MRI
2	PCT/US99/01021				
3	PCT/US98/11706				
4	PCT/US98/117076				
5	PCT/US97/05519	Rise	Medtronic, Inc.	10/30/99	Apparatus for treating movement disorders by closed-loop brain stimulation
6	PCT/US97/05118	Rise	Medtronic, Inc. NeuroPace, Inc.	10/30/99 4/28/99	Apparatus for treating neurodegenerative disorders System for the treatment of neurological disorders
7	EP0911061A2	Fischell	Medtronic, Inc.	10/12/99	Thinwall guide catheter
8	5,964,971	Lunn	Medtronic, Inc.	10/12/99	Medical electrical lead
9	5,964,795	McVenes	Medtronic, Inc.	10/12/99	MR-Compatible medical devices
10	5,964,705	Truitt	Image-Guided Neurologics	10/12/99	Implantable helical spiral cuff electrode method of installation
11	5,964,702	Grill	Case Western Reserve University	10/12/99	Implantable cardiac lead with multiple shape memory polymer structures
12	5,961,542	Agarwala	Empi Corporation	10/15/99	Medical stimulator with intensity control and mode of operation override
13	5,957,966	Schroepel	Intermedics Inc.	9/28/99	Sacral medical electrical lead
14	5,957,965	Mountaine	Medtronic, Inc.	9/28/99	Implantable electrode arrays
15	5,957,958	Schulman	Advanced Bionics Corporation, Alfred E. Mann Foundation for Scientific Research	9/28/99	Dual channel implantation neurostimulation techniques
16	5,948,007	Starkebaum	Medtronic, Inc.	9/7/99	Pain Management system and method
17	5,938,690	Law, Borkan	Advanced Neuromodulation Systems, Inc.	9/17/99	
18	5,938,689	Fischell	NeuroPace, Inc.	8/17/99	Electrode configuration for a brain neuropacemaker
19	5,938,688	Schiff	Cornell Research Foundation, Inc.	8/17/99	Deep brain stimulation method
20	5,938,596	Woloszko	Medtronic, Inc.	8/17/99	Medical electrical lead
21	5,928,272	Adkins	Cyberonics, Inc.	7/27/99	Automatic activation of a neurostimulator device using a detection algorithm based on cardiac activity
22	5,928,144	Real	Medtronic, Inc.	7/27/99	Needle electrode
23	5,925,070	King	Medtronic, Inc.	7/20/99	Techniques for adjusting the locus of excitation of electrically excitable tissue
24	5,925,043	Kumar	MedQuest Products, Inc.	7/20/99	Electrosurgical electrode with a conductive, non-stick coating
25	5,913,882	King	Medtronic, Inc.	6/22/99	Neural stimulation techniques with feedback
26	5,899,891	Racz (Sandor)	Epimed International, Inc.	5/4/99	Catheter
27	5,893,883	Torgerson	Medtronic, Inc.	4/13/99	Portable stimulation screening device for screening therapeutic effect of electrical stimulation on a patient user during normal activities of the patient user

Patent File

I.D. #	Patent Number	Inventor	Assignee	Issue Date	Title
28	5,871,483	Jackson Baudino	EP Technologies, Inc. Medtronic, Inc.	2/16/99 2/29/99	Folding electrode structures
29	5,865,843	Gough Rashidi	Rita Medical Systems Cardiac Assist Devices, Inc.	1/26/99 1/19/99	Multiple antenna ablation apparatus and method Electrophysiology catheter and remote actuator therefor
30	5,863,290				
31	5,861,024	Abele	Boston Scientific Corporation	1/19/99	Heart ablation catheter with expandable electrode and method of coupling energy to an electrode on a catheter shaft
32	5,860,974				
33	5,860,920	McGee	EP Technologies, Inc.	1/19/99	Systems for locating and ablating accessory pathways in the heart
34	5,855,576	LeVeen	Board of Regents of University of Nebraska	1/15/99	Method for volumetric tissue ablation
35	5,855,552	Houser Chen	EP Technologies, Inc. Irvine Biomedical, Inc.	1/15/99 1/21/98	Catheter having ring electrodes secured thereon Catheter and method for radiofrequency ablation of cardiac tissue
36	5,849,028				
37	5,843,148	Gijbers	Medtronic, Inc.	12/1/98	High resolution brain stimulation lead and method of use
38	5,843,093	Howard Taylor Swanson	University of Iowa Research Foundation Engineering & Research Associates, Inc. EP Technologies, Inc.	12/1/98 1/21/98	Stereotactic electrode assembly Probe for thermal ablation
39	5,843,075				
40	5,840,076				
41	5,840,030	Ferek-Petric Ben-Haim	Sulzer Osypka GmbH Biosense, Inc.	1/1/98 1/1/98	Ultrasound marked cardiac ablation catheter
42	5,840,025				Apparatus and method for treating cardiac arrhythmias
43	5,836,875	Websler Swanson	Cordis Webster, Inc. EP Technologies, Inc.	11/17/98 11/17/98	Split tip electrode catheter
44	5,836,874				Multi-function electrode structures for electrically analyzing and heating body tissue
45	5,833,709	Rise	Medtronic, Inc.	11/10/98	Method of treating movement disorders by brain stimulation
46	5,830,210	Rudko King Qin	PLC Medical Systems, Inc. Medtronic, Inc. Medtronic, Inc.	1/13/98 9/29/98 9/15/98	Catheter navigation apparatus
47	5,814,092				Neural stimulation techniques with feedback
48	5,807,249				Reduced stiffness, bidirectionally deflecting catheter assembly
49	5,800,413	Swartz	Dalg Corporation	9/1/98	Guiding introducer for use in the treatment of atrial flutter
50	5,800,407	Eldar Rise	Medtronic, Inc.	9/1/98 8/1/98	Multiple hole epidural catheter
51	5,792,186				Method and apparatus for treating neurodegenerative disorders by electrical brain stimulation
52	5,783,692	Campbell	Fidus Medical Technology Corporation	8/4/98	Mapping ablation catheter

Patent File

I.D. #	Patent Number	Inventor	Assignee	Issue Date	Title
53	5,782,798	Rise	Medtronic, Inc.	7/21/98	Techniques for treating eating disorders by brain stimulation and drug infusion
54	5,755,715	Stern	EP Technologies, Inc.	5/26/98	Tissue heating and ablation systems using time-variable set point temperature curves for monitoring
55	5,755,664	Rubenstein	Arch Development Corporation	5/26/98	Wavefront direction mapping catheter system
56	5,752,937	Otten	Medtronic, Inc.	5/19/98	Reinforced splittable medical introducer cannula
57	5,733,323	Buck	Cardis Corporation	3/31/98	Electrically conductive unipolar vascular sheath
58	5,733,322	Starkbaum	Medtronic, Inc.	3/31/98	Positive fixation percutaneous epidural neurostimulation lead
59	5,730,127	Avitall	Cardis Corporation	3/24/98	Mapping and ablation catheter system
60	5,720,775	Lamard	Medtronic, Inc.	2/24/98	Percutaneous atrial line ablation catheter
61	5,716,377	Rise	Medtronic, Inc.	2/10/98	Method of treating movement disorders by brain stimulation
62	5,713,923	Ward	Medtronic, Inc.	2/3/98	Techniques for treating epilepsy by brain stimulation
63	5,713,922	King	Medtronic, Inc.	2/3/98	Techniques for adjusting the locus of excitation of neural tissue in the spinal cord or brain
64	5,712,462	Berkowitz	Medtronic, Inc.	1/27/98	Implantable medical device with high reliability electrical and drug infusion connection using reactive metals
65	5,702,429	King	Medtronic, Inc.	1/23/97	Neural stimulation techniques with feedback
66	5,697,951	Harpstead	Medtronic, Inc.	1/21/97	Implantable stimulation and drug infusion techniques
67	5,683,434	Acher	Pacesetter, Inc.	1/14/97	Microstrip EMI shunt for an implantable medical device
68	5,683,422	Rise	Medtronic, Inc.	1/14/97	Method and apparatus for treating neurodegenerative disorders by electrical brain stimulation
69	5,676,662	Fleischhacker	Daiq Corporation	10/14/97	Ablation catheter
70	5,673,695	McGee	EP Technologies, Inc.	10/7/97	Methods for locating and ablating accessory pathways in the heart
71	5,667,514	Heller	Cochlear Ltd.	9/16/97	Device and method for inserting flexible element into soft tissue
72	5,643,197	Brucker	Angelion Corporation	7/1/97	Fluid cooled and perfusion tip for a catheter
73	5,634,462	Tyler	Case Western Reserve University	6/3/97	Corrugated inter-fascicular nerve cuff method and apparatus
74	5,611,350	John		3/18/97	Method and apparatus for facilitating recovery of patients in deep coma
75	5,607,422	Smeets	Cardis Corporation	3/4/97	Catheter with elongated side electrode
76	5,582,609	Swanson	EP Technologies, Inc.	12/10/96	Systems and methods for forming large lesions in body tissue using curvilinear electrode elements
77	5,571,150	Wernicke	Cyberonics, Inc.	11/15/96	Treatment of patients in coma by nerve stimulation

Patent File

I.D. #	Patent Number	Inventor	Assignee	Issue Date	Title
78	5,558,073	Pomeranz	Cardiac Pathways Corporation	9/24/96	Endocardial mapping apparatus with rotatable arm and method
79	5,554,178	Dahl	Cardiac Pacemakers, Inc.	9/10/96	Metalized implantable cardiac electrode
80	5,540,730	Terry	Cyberonics, Inc.	7/30/96	Treatment of motility disorders by nerve stimulation
81	5,538,444	Strand	3M	7/23/96	Electrode connector
82	5,531,778	Maschino	Cyberonics, Inc.	7/29/96	Circumneurial electrode assembly
83	5,505,730	Edwards	Edwards, Stuart D.	4/9/96	Thin layer ablation apparatus
84	5,490,845	Racz (Gabor)		2/13/95	R-X safety catheter
85	5,433,742	Willis	Cardiac Pathways Corporation	7/18/95	Conductive adhesive band for catheter electrodes
86	5,425,364	Imran	Ventritex, Inc.	6/20/95	Flexible strip assembly without feedthrough holes and
87	5,411,544	Mar		4/2/95	Defibrillation lead with improved mechanical and electrical characteristics
88	5,406,946	Imran	Cardiac Pathways Corporation	4/18/95	Endocardial mapping apparatus and ablation catheter and method
89	5,378,241	Haindl		1/3/95	Anesthesia instrument
90	5,370,126	Clifford	Neurotech, Inc.	12/6/94	Method and apparatus for three-dimensional mapping of evoked potentials
91	5,358,514	Schulman	Alfred E. Mann Foundation for Scientific Research	10/25/94	Implantable microdevice with self-attaching electrodes
92	5,344,438	Testerman	Medtronic, Inc.	9/6/94	Cuff electrode
93	5,342,409	Mullett	Cyberonics, Inc.	8/30/94	Position-responsive neuro stimulator
94	5,330,515	Rutecki	Medtronic, Inc.	7/19/94	Treatment of pain by vagal afferent stimulation
95	5,324,322	Grill	Case Western Reserve University	6/28/94	Thin film implantable electrode and method of manufacture
96	5,304,206	Baker	Cyberonics, Inc.	4/19/94	Activation techniques for implantable medical device
97	5,282,468	Klepiński	Medtronic, Inc.	2/1/94	Implantable neural electrode
98	5,257,451	Edwards	EP Technologies, Inc.	11/2/93	Method of making durable sleeve for enclosing a bendable electrode tip assembly
99	5,255,691	Otten	Medtronic, Inc.	10/26/93	Percutaneous epidural lead introducing system and method
100	5,251,634	Weinberg	Cyberonics, Inc.	8/24/93	Helical nerve electrode
101	5,237,991	Baker	Cyberonics, Inc.	8/24/93	Implantable medical device with dummy lead for pre-implant testing in sterile package and facilitating electrical lead connection
102	5,213,578	Heiliger	VYGON GmbH & Co. KG	5/25/93	Anesthesia set
103	5,178,957	Kolpe	3M	1/12/93	Noble metal-polymer composites and flexible thin-film
104	5,135,525	Bisping	B. Braun Melsungen AG	8/4/92	conductors prepared therefrom
105	5,118,400	Wolam	Spire Corporation	6/2/92	Catheter set for continuous spinal anesthesia
					Method of making biocompatible electrodes

Patent File

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106	5,095,905	Klepiniski	Medtronic, Inc.	3/17/92	Implantable neural electrode
107	5,040,544	Lessar	Medtronic, Inc.	8/20/91	Medical electrical lead and method of manufacture
108	5,031,618	Mullett	Medtronic, Inc.	7/16/91	Position-Responsive neuro stimulator
109	4,947,866	Lessar	Medtronic, Inc.	8/14/90	Medical electrical lead
110	4,920,979	Bullara	Huntington Medical Research Institute	5/1/90	Bidirectional helical electrode for nerve stimulation
111	4,903,702	Putz	Ad-Tech Medical Instrument Corporation	2/27/90	Brain-contact for sensing epileptogenic foci with improved accuracy
112	4,890,623	Cook	C.R. Bard, Inc.	1/2/90	Biopotential sensing device and method for making
113	4,860,446	Lessar	Medtronic, Inc.	8/29/89	Medical electrical lead and method of manufacture
114	4,793,353	Borkan	Borkan	1/22/78	Non-invasive multiprogrammable tissue stimulator and method
115	4,764,324	Burnham	9/16/88	Method of making a catheter	
116	4,658,835	Pohndorf	4/21/87	Neural stimulating lead with fixation canopy formation	
117	4,612,934	Borkan	9/23/86	Non-invasive multiprogrammable tissue stimulator	
118	4,590,949	Pohndorf	4/27/86	Neural stimulating lead with stabilizing mechanism and method for using same	
119	4,481,953	Gold	Cordis Corporation	1/13/84	Endocardial lead having helically wound ribbon electrode
120	4,459,989	Borkan	Neuromed, Inc.	12/17/84	Non-invasive multiprogrammable tissue stimulator and methods for use
121	4,408,616	Duffy	The Children's Medical Center Corporation	10/1/83	Brain electrical activity mapping
122	4,379,462	Borkan	Neuromed, Inc.	4/12/83	Multi-electrode catheter assembly for spinal cord stimulation
123	4,285,347	Hess	Cordis Corporation	8/25/81	Stabilized directional neural electrode lead
124	4,245,645	Arseneault	Self-locking cerebral electrical probe	1/20/81	
125	4,201,224	John	Electroencephalographic method and system for the quantitative description of patient brain status	5/6/80	
126	4,141,365	Fischell	The Johns Hopkins University	2/27/79	Epidural lead electrode and insertion needle
127	3,850,161	Liss	Method and apparatus for monitoring and counteracting excess brain electrical energy to prevent epileptic seizures and the like	1/12/674	
128					
129					
130					